

GLOSSARY OF TERMS
Guidelines for Multipurpose Land Information Systems
(Sections V-VIII)

Accuracy: The degree of conformity of a product with a standard or accepted value. Accuracy relates to the quality of a result.

Aerial Photography: Photographs of a part of the earth's surface taken by a camera mounted in an aircraft for mapping purposes. This usually consists of a series of overlapping photos taken in strips which can form the basis for mapping.

Aliquot Parts: The approximately rectangular subdivisions of the township and section.

Annotation: Labels or text on a map associated with identifying or explaining graphic entities shown.

Area: A generic term for a bounded, continuous, two-dimensional object that may or may not include its boundary.

Attribute: Alphanumeric (non-graphic) data related to a specific map feature (point, line or polygon). For example, parcel information linked to a specific parcel (polygon) might include the parcel owner's name and the parcel address.

Attribute Accuracy: The reliability of information associated with a surface feature. For example, is the gravel road shown truly gravel?

Attribute Data: A characteristic of a geographic feature described by numbers or characters, typically stored in tabular format and linked to the feature by an identifier.

Base Map Data: Basic level of data or features to establish and maintain a base map. See also Base Map.

Base Map: A term which varies in different applications, but, in general, refers to a map referenced to a coordinate system that depicts the fundamental map elements, such as Public Land Survey System section corners, streets, buildings, streams, etc., which are used for locational reference. It is the control document from which various other maps in a geographic information system are developed.

Cadastral Data: The graphic and/or non-graphic information describing parcels. These data include property corners, boundaries, parcels of land, and related tabular attribute information. An example would include a polygon representing the boundaries of a property parcel and/or attribute information describing the area and ownership of that parcel. Some publications use this term to refer to only the graphic cadastral features.

Cadastral: A system that defines the legal characteristics of properties, such as ownership, title issues, value, etc.

Cadastral (Multipurpose): Generally, this means maps and other descriptions of land parcels recording the nature and extent of interest in the land such as ownership. The addition of a multipurpose classification allows the inclusion of additional information relating to the land such as zoning or soils composition.

Completeness: The degree to which a map or database includes all of the possible universe of features and values.

Consistency: The degree that similar features and values are represented the same throughout the map or database.

Coordinate Geometry (COGO): A computerized surveying-plotting calculation methodology created at MIT in the 1950's.

Coordinate Systems: A framework used to define the positions (locations) of points in space either in two or three dimensions. Examples of such systems would be a spherical system, such as latitude and longitude, or a planar system, such as State Plane Coordinates (x, y).

Coverages: One of a series of data themes, such as wetlands or water lines, in a geographic information system. Each theme contains graphic and attribute data related to that topic that are referenced spatially to a coordinate system.

Database: A collection of information related by a common fact or purpose.

Datum: In mapping, a numeric or geometric quantity which serves as a reference or base to accurately define other quantities. It most often refers to either a horizontal standard, such as a particular spheroid for referencing coordinate positions, or it refers to a vertical datum, such as mean the geoid or sea level, from which elevations are references.

Digital Elevation Model (DEM): A raster storage method developed by the U.S. Geological Survey for elevation data.

Digital Orthophoto Quarter Quads (DOQQs or DOQs): A rectified digital image of an aerial photograph with distortion and displacements (caused by camera tilt and terrain relief) removed. The result combines the image characteristics of a photograph with the geometric qualities of a map.

Digital Map: A computer-readable representation of a geographic area or phenomenon that can be displayed or analyzed by a digital computer. This is in contrast to an analog "paper" map.

Digitizing: A method of converting map data that is in analog form (paper or hard copy) into digital data usable by a computer.

Elevation: (1) The vertical distance from a datum to a point or object on the earth's surface; (2) The measurement of the height of terrain on the earth's surface, or the depth of deep waters.

Extent: The geographic area covered by a single map or drawing or by a collection of similar sets or series of maps and drawings.

Feature: A defined entity and its object representation.

Geocode: A location identifier. Also denotes the process of assigning a geocode. In common GIS practice, geocoding frequently refers to assigning an x,y coordinate location to an address.

Geodetic Control: A system of horizontal and/or vertical stations tied into horizontal and/or vertical datum, which are established to facilitate the location of other features on, above or below the earth's surface. Also known as geographic control.

Geodetic Reference Framework: This framework consists of permanently monumented stations whose locations are accurately measured and mathematically described relative to a common datum.

Geographic Control: The coordinate system and points on the coordinate system for all data in the Geographic Information System. It is used to reference where things are located, such as control on major road intersections. Also known as geodetic control.

Geographic Information System (GIS): An organized collection of computer hardware, software, geographic data and personnel designed to efficiently capture, store, update, manipulate, analyze and display all forms of geographically referenced information. Certain complex spatial operations are possible with GIS that would be very difficult, time-consuming or impractical otherwise.

Geospatial Data: Information that identifies the geographic location and characteristics of natural or constructed features and boundaries on the earth.

Geo-referenced: Applies to any set of map data that is spatially referenced to a specific location on the earth's surface.

Global Positioning System (GPS): A constellation of satellites originally developed by the U.S. Department of Defense as a navigation aid. It is now used by the civilian community for navigation and horizontal/vertical positioning of features.

Grid: (1) Two sets of parallel lines intersecting at right angles in a plane coordinate system; (2) A set of cells or points arranged in a grid.

High Accuracy Reference Network (HARN): HARN is a regional geodetic reference network, developed with the use of Global Positioning System (GPS) technology, which has a very high degree of spatial accuracy for its NAD 83 coordinate locations.

Horizontal Datum: The two most common spheroidal reference surfaces in the United States used as a reference or base to accurately define horizontal positions (x, y or longitude, latitude) are the North American Datum of 1927 (NAD 27) or the more recent and precise north American Datum of 1983 (NAD 83). (Section 1, pg 3)

Land Information System (LIS): A geographic information system having, as its main focus, data concerning land records. See also Geographical Information Systems.

Latitude: The angular distance of a location north or south of the equator.

Lineage: The original source material for the existing product that you are evaluating.

Longitude: The angle between the plane of a meridian and the plane of an initial meridian arbitrarily chosen (the Greenwich Prime Meridian). In the United States, this angle is commonly measured as the angle west of the Prime Meridian.

Look-up Table: A tabular database file used for cross-referencing information by linking through a common identifier.

Map Accuracy: A measure of the maximum errors permitted in horizontal positions and elevations shown on maps. In the United States, a recommended standard is the National Horizontal Map Accuracy Standard.

Map Projection: A systematic method of representing the whole or part of the curved surface of the earth on another, usually flat, surface. See also Projection.

Map Scale: The relationship existing between a distance on a map and the corresponding distance on the earth. A scale of 1 inch = 2000 feet can also be expressed as 1:24,000 (i.e., 1 inch on the map to 24,000 inches on the earth).

Meridian: A “line” on the earth’s surface which follows the shortest distance from pole to pole.

Metadata: Data about the content, quality, condition, and other characteristics of data.

Monumentation: In surveying and mapping, this usually refers to physical objects on the earth’s surface, the positions (x, y, and/or z) of which are known or are established.

Multipurpose Cadastre: Generally, this means maps and other descriptions of land parcels recording the nature and extent of interest in the land such as ownership. The addition of a multipurpose classification allows the inclusion of additional information relating to the land such as zoning or soils composition.

Multipurpose Land Information System (MLIS): A geographic information system containing natural, cultural, and infrastructure information.

National Geodetic Vertical Datum (NGVD): A vertical control datum established for vertical control in the United States by the general adjustment of 1929. The datum is defined by observed heights of mean sea level at 26 tide gauges and by the set of elevations of all bench marks resulting from the adjustment.

National Spatial Reference System (NSRS): The NSRS is a geodetic reference framework developed by the National Geodetic Survey which, when completed in all 50 states, will include some 16,000 monumented geodetic control stations with known coordinate locations.

Nebraska State Plane Coordinate System (Nebraska Plane Coordinate System): The plane-rectangular coordinate system established by the Federal Government for the geographic area of Nebraska, which is used for defining positions of points on, above or below the earth's surface in terms of x and y coordinates directly related to geographic (latitude and longitude) coordinates.

North American Datum (NAD): A North American Datum is a spherical reference system designed for use in the North American continent area and based on specific models of the shape of the earth. NAD 83 updated NAD 27 with current measurements using radio astronomy and satellite observations. Coordinates derived using Global Positioning Systems (GPS) are easily referenced to NAD 83 because they are based on a common earth shape model.

North American Vertical Datum of 1988 (NAVD 88): A vertical control datum or reference surface established in 1991, which is commonly used to define vertical elevations.

Orthophotograph: An aerial photograph in which the distortions due to camera tilt and topographic relief have been removed. An orthophotograph has consistent scale throughout and can be used as a map.

Parcel: A single cadastral unit, which is the spatial extent of the past, present, and future rights and interests in real property.

Parcel Identification Number (PIN): A unique number permanently linking a parcel with information relating to that specific parcel. A reference number.

Photogrammetry: The science or art of obtaining reliable measurements by photography. For GIS applications, aerial photogrammetry often provides the foundation to develop base maps.

Pixel: One picture element. Often used synonymously with a raster or grid cell. The smallest discrete element which makes up an image.

Planimetric Information: In mapping, refers to line drawings that accurately represent the shape and position of important features visible on the earth's surface such as rivers.

Point: A zero-dimensional object that specifies geometric location. A single x,y coordinate that represents a geographic feature too small to be displayed as a line or area.

Polygon: A closed plane figure bounded by three or more line segments.

Positional Accuracy: The variance of the position of a map feature from the true position of the entity on the earth's surface.

Precision: A measure of the uniformity or "reproducibility" of the result of a set of measurements. Precision relates to the quality of the operation by which a result is obtained.

Prime Meridian: The initial meridian or longitude 0 degree (Greenwich Meridian), which creates the plane from which an angle is measured to establish the longitude of a point.

Projection: A mathematical model that transforms the locations of features on the earth's surface onto a 2-dimensional map surface. See also Map Projection.

Property Boundaries: A series of lines between various property corners resulting in a closed geometric figure.

Property Corners: Legally established points on the earth's surface, which in much of the United States are referenced to the Public Land Survey System (PLSS).

Property Parcels: Closed geometric figure made up of property boundaries and property corners as defined by a legal parcel description.

Public Land Survey System (PLSS): The survey carried out by the Bureau of Land Management and its predecessors for establishing boundaries and subdivisions of public lands of the United States, using the rules embodied in the U.S. Public Land System. The system is frequently used for designating the locations of a parcel of land based on township, range, section and quarter section delineations.

Raster Data: One method of storing, representing or displaying spatial data in digital form. It consists of using cell data (not necessarily square) arranged in a regular grid pattern in which each unit (pixel or cell) within the grid is assigned an identifying value based on its characteristics.

Rectified Photography: Photography in which the distortions caused by the tilt of the airplane or the camera angle have been removed, but not the distortions caused by terrain.

Referencing System: A set of datums and rules by which the location of each point can be identified uniquely.

Resolution: A measure of the accuracy or detail of a graphic display expressed as dots per inch, pixels per line, line per millimeter, etc.

Satellite Imagery: Digital data obtained from sensors carried in satellites. It includes collecting data both in the visible and non-visible portions of the electromagnetic spectrum. One system is the multi-spectral scanner carried in Landsat satellites.

Spatial: Refers to features or phenomena distributed in space and, thus, having physical, measurable dimensions.

State Plane Coordinate System: A system of plane-rectangular coordinates established by the federal government. The system is used for defining positions of points on, above, or below the earth's surface in terms of x and y values directly related to geographic (latitude and longitude) coordinates. One or more zones exist for each state in the US. See Nebraska State Plane Coordinate System.

Timeliness: The currency of existing maps or geospatial data.

Topography: The relief, elevation or shape of the earth in a given area.

Topology: The explicit definition of how map features represented by point, lines and areas are related. Specifically, issues of connectivity and adjacency of features are accounted for.

Unique Identifier: A specific number assigned to a graphic feature linking the feature to related attribute information. Also relates to a specific number assigned to alphanumeric data for purposes of cross-referencing.

Universal Transverse Mercator (UTM): A metric worldwide planar coordinate system predominately used in federal mapping. The extent of the coordinate system is broken into 60, 6-degree longitude zones.

Vector Data: One method of storing, representing or displaying spatial data in digital form. It consists of using coordinate pairs (x, y) to represent locations on the earth. Features can take form of single points, lines, arcs or closed lines (polygons).

Vertical Datum: A reference surface used to accurately define vertical elevations. See also National Geodetic Vertical Datum and North American Vertical Datum of 1988.

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